PIONEER
The Art of Entertainment

Operating Instructions
Manual de instrucciones
使用説明書

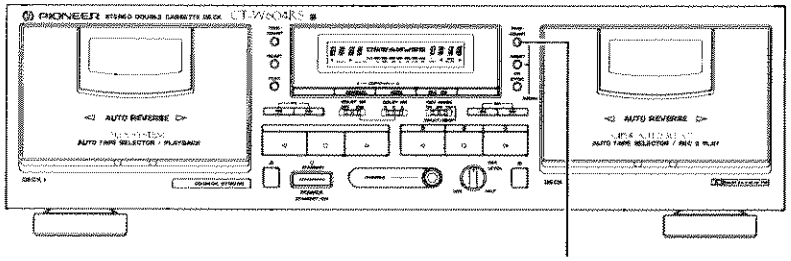
CT-W604RS

STEREO DOUBLE CASSETTE DECK
GRABADORA DE DOBLE CASETE ESTEREOFÓNICA
立體聲雙卡式錄音機

English

Español

中國語



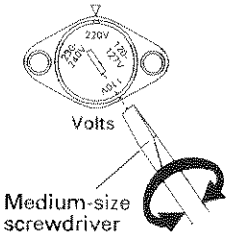
Demo mode
Modo de demostración
模式顯示

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

LINE VOLTAGE SELECTOR SWITCH

Mains voltages in Saudi Arabia are 127V and 220V only. Never use this model with a 110V setting in Saudi Arabia.
The line voltage selector switch is on the rear panel. Check that it is set properly before plugging the power cord into the AC outlet. If the voltage is not properly set or if you move to an area where the voltage requirements differ, adjust the selector switch as follows.

1. Disconnect the power cord.
2. Use a medium-size screwdriver.
3. Insert the screwdriver into the groove on the voltage selector, and adjust so that the tip of the arrow points to the voltage value of your area.



About the Demo mode

Press the DECK II counter reset button (RESET) and the DECK II counter mode button (TIME/COUNT) simultaneously to set the demonstration mode. To cancel the demonstration mode, press any one of the buttons enclosed in the dotted lines above.

Notas sobre el modo de demostración

Presione el botón de reposición del contador de la platina II (RESET) y botón del contador de tiempo (TIME/COUNT) de la platina II simultáneamente para ajustar el modo de demostración. Para cancelar el modo de demostración, presione cualquiera de los botones cerrados en las líneas de puntos de arriba.

關於模式顯示

同時按走帶機構II的計數器復位鍵（RESET）和走帶機構II的計數器模式鍵（TIME/COUNT），以設定顯示模式。欲取消顯示模式時，請按上圖中用虛線圈起範圍內的任一鍵。

IMPORTANT 1

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your unit properly. After you have finished reading the instructions, keep them in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

CONTENTS

INSTALLATION 4
HANDLING CASSETTE TAPES 4
MAINTENANCE 8
CONNECTIONS 10
FRONT PANEL FACILITIES 14
PLAYBACK 30
- SINGLE PLAYBACK 30
- BLANK SKIP 30
- RELAY PLAYBACK 32
- MUSIC SEARCH 36

RECORDING 38
- SINGLE RECORDING 38
- RECORDING MUTE 40
- ERASING A TAPE 40
- SUPER AUTO BLE XD TUNING (BLE XD) 42
- CD • DECK SYNCHRO RECORDING 46

TAPE COPYING 50
TROUBLESHOOTING 52
SPECIFICATIONS 58

THE POWER SWITCH IS SECONDARY CONNECTED AND THEREFORE DOES NOT SEPARATE THE UNIT FROM MAINS POWER IN THE STANDBY POSITION.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

– Reorient or relocate the receiving antenna.

– Increase the separation between the equipment and receiver.

– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

– Consult the dealer or an experienced radio/TV technician for help.

Information to User
Alteration or modifications carried out without appropriate authorization may invalidate the user's right to operate the equipment.

INSTALLATION

When installing the deck, avoid locations with high temperatures or humidity, and make sure that the deck receives adequate ventilation.

- Do not install the deck in locations subject to direct sunlight, or near a space heater or other heating device, as this may cause damage to the finish or internal parts.
- Malfunctions may also result if the deck is installed in an excessively humid or dusty location. Avoid installing the deck next to kitchen counters or other locations subject to oily smoke or humidity.
- If the deck is placed directly on top of an amplifier, it may pick up humming or other noise. Also, if the amplifier generates a large amount of heat, the deck may malfunction.
- If the deck is located near a television set, it may pick up interference noise, which will be recorded as a whistling sound on the tape. If this happens, move the deck further away from the television set or turn the television set off when operating the deck.
- Do not place a cloth over the deck, or block the ventilation slots in any way. The ventilation slots on this deck are necessary to keep internal parts cool. If they are blocked, the deck may malfunction.

CONDENSATION

When the unit is brought into a warm room from previously cold conditions or when the room temperature is suddenly increased, condensation may form inside and the unit may not be able to attain its full performance. If this occurs, allow the unit to stand for about an hour or raise the room temperature gradually.

HANDLING CASSETTE TAPES

TIPS ON CASSETTE TAPES

- Leader tape (which cannot be recorded on) is provided at the beginning of a cassette tape. Let the tape run for about 5 seconds before starting to record, to allow the leader tape to clear the recording head.
- Do not leave a cassette tape exposed to the environment. Store the cassette in its case after use so that dust and dirt do not adhere to the tape, and so the tape will not get slack. Store tapes in a location free from magnetism, dust, dirt, oil, heat and humidity.
- If cassette tapes are irregularly wound, the tape may get jammed in the rollers. This can cause damage to both the tape and the deck. If you are not certain whether the tape is wound evenly, fast forward or rewind the tape from beginning to end, to make sure that the tape is properly wound.

Do not use tapes longer than 90 minutes in length

Because over the C-90 tapes are very thin, they can easily jam in the pinch rollers and capstan, and they often are subject to other problems such as irregular winding.

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INSTALACIÓN

Para la instalación de la grabadora, descarte los lugares con altas temperaturas y humedad, y asegúrese de que el lugar esté bien ventilado para la grabadora.

- No instale la grabadora en lugares en los que los rayos del sol den directamente, ni cerca de estufas u otros aparatos de calefacción, porque el acabado o las partes del interior podrían quedar adversamente afectados.
- Si se instala el aparato en un lugar húmedo o polvoriento puede producirse además mal funcionamiento. No lo instale tampoco cerca de cocinas u otros lugares sujetos a humos de aceites o humedad.
- Si pone el aparato directamente encima de un amplificador, puede ser que capte zumbido u otros ruidos. Además, si el amplificador genera mucho calor, la grabadora podría averiarse.
- Si pone el aparato cerca de un televisor, es posible que capte ruido de interferencia, el cual puede incluso grabarse como tono de silbido en la cinta. En tales casos, separe la grabadora del televisor o desconecte la alimentación del televisor cuando opere la grabadora.
- No ponga telas encima de la grabadora ni obstruya las rejillas de ventilación de ningún otro modo. Las rejillas de ventilación de esta grabadora son necesarias para mantener frías las partes internas. Si se bloquean, la grabadora podría funcionar mal.

CONDENSACIÓN DE HUMEDAD

Cuando se lleva el aparato de una sala fría a otra caliente, o cuando la temperatura se incrementa con rapidez, se forma condensación en las partes mecánicas, lo cual afecta el rendimiento de la grabadora. En tales casos, deje el aparato en un lugar con temperatura más cálida durante aproximadamente una hora hasta que el aparato se ajuste a la temperatura de la sala aumente gradualmente la temperatura de la sala.

MANIPULACIÓN DE LAS CINTAS DE CASETE

CONSEJOS SOBRE EL EMPLEO DE LAS CINTAS DE CASETE

- La parte de cinta guía, en la que no se puede grabar sonido, es la que está al principio de las cintas de casete. Inicie la grabación después de dejar correr la cinta unos 5 segundos para que la parte de cinta guía haya podido pasar por la cabeza de grabación.
- No deje las cintas de casete expuestas al aire libre. Guarde los casetes en sus cajas, y de este modo evitará que se adhiera la suciedad y el polvo así como también que se afloje la cinta. Seleccione un lugar que no esté expuesto a los efectos del magnetismo, polvo, suciedad y grasa para guardarlos.
- Si las cintas de casete se bobinan de forma irregular, la cinta puede atascarse en los rodillos. Esto puede causar daños a la cinta y al aparato. Si no está seguro si la cinta se bobina de forma uniforme, realice el avance rápido o rebobinado de la cinta de principio a final, para asegurarse de que se bobina correctamente.

No utilice cintas de más de 90 minutos de duración.
Porque las cintas de mayor duración que las C-90 son muy delgadas, se atascan fácilmente en los rodillos de presión y cabrestantes, y a menudo causan otros problemas como, por ejemplo, un bobinado irregular.

安裝

要避免將本機安裝在高溫或潮濕的場所，並保持本機良好的通風狀態

- 要避免本機處於直射陽光、附近有爐子或其他取暖裝置的地方，以免引起外殼表面及內部部件的損壞。
- 如果將本機置於過度潮濕或多塵的地方，會引起故障。同時要避免放在廚房附近或有油煙、潮氣的地方。
- 如果將本機直接放置在擴大器的上面，則有可能拾取嗡嗡聲或其他噪聲。另外，如果擴大器產生較大的熱量，機器也可能發生故障。
- 若將本機安放在電視機附近，則會拾取干擾噪聲。由於上述噪聲的影響，向錄至磁帶上的訊號會滲入嘯聲。此時，應將機器移到離電視機較遠的地方，或者在使用機器時關閉電視機。
- 不要在機器上罩一塊布，或放置任何其他遮擋通風孔的物品。為了確保內部部件的冷卻，機器備有這些通風孔。如果遮擋這些通風孔，機器有可能發生故障。

結露

若從較寒冷的場所將機器一下子移到較暖和的場所，或者房間溫度突然升高，機器的機械部件表面會結露，從而造成機器功能失靈。這時，請稍等約一小時左右，或緩慢地升高房間溫度。

磁帶使用方法

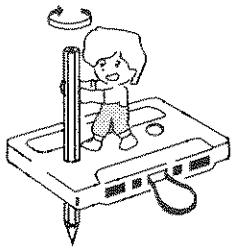
使用前檢查磁帶

- 磁帶的開始部份裝有引帶（在此引帶上面無法錄音），引帶在錄音開始之前有約5秒鐘的走帶時間，以清潔磁頭。
- 不要讓磁帶直接暴露在外面。在使用之後，請將磁帶放入盒內，以防範灰塵和髒物黏附於磁帶，同時還可防範磁帶鬆馳。存放場所要避開磁場、多塵、髒物、多油、高熱及高潮的地方。
- 如果發生不規則卷帶現象，磁帶在壓輪處會被卡住。這樣，即有可能損毀磁帶，也有可能損毀機器。若您對磁帶是否被均勻卷繞沒有把握時，請讓磁帶從頭至尾快進或快倒一次，以確認磁帶被均勻卷繞。

不要使用90分鐘以上的磁帶
由於C-90磁帶非常薄，很容易在夾輪與主輪之間被卡住，而且易引起不規則卷帶等故障。

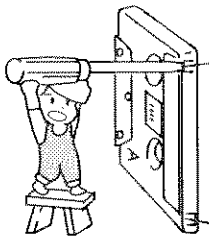
A

Turn the pencil to take up the tape slack.
Gire el lápiz para tensar la cinta.
轉動鉛筆卷緊磁帶



B

For erasure prevention remove
Para evitar el borrado de cintas grabadas rompa ...
為防範消音而除去

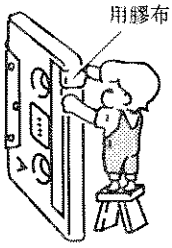


Tab for Side A
La lengüeta para la cara A
A 面防誤錄保險片

Tab for Side B
La lengüeta para la cara B
B 面防誤錄保險片

C

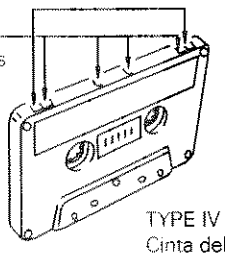
Cover with adhesive tape
Pegue la cinta adhesiva aquí
用膠布



D

Erasure prevention tabs
Lengüetas protectoras contra borrado
防誤錄保險片

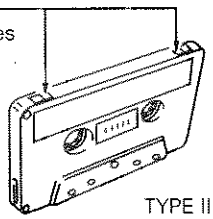
Sensor holes
Orificios sensores
傳感孔



TYPE IV (Metal) tape
Cinta del TIPO IV (metal)
金屬（TYPE IV）磁帶

E

Sensor holes
Orificios sensores
傳感孔



TYPE II (High/CrO_2) tape
Cinta del tipo II (alta/CrO_2)
高質／二氧化鉻（TYPE II）磁帶

HANDLING CASSETTE TAPES

CHECK CASSETTE BEFORE USE

Check the following items before loading a cassette tape:

Is the tape loose, or is some of the tape outside the cassette?

If some of the tape is loose or projecting outside the cassette shell, the tape may not load properly between the capstan and pinch roller. This will prevent the tape from operating properly, and may even damage the tape itself. To prevent this, insert a pencil into the reel hole and take up the slack (Fig. A).
Some cassette tapes come with a plastic or thick paper stopper to prevent the tape from becoming slack. Remove this stopper when loading the cassette and replace it after using the cassette.

Are the accidental erasure prevention tabs intact?

These tabs allow you to prevent important recordings from being erased accidentally. When the tab on the cassette shell is broken off (Fig. B), it is not possible to activate the recording function, so valuable recordings will not be erased by mistake.
To rerecord on a cassette whose tab has been broken off, simply stick a piece of doubled adhesive tape over the hole (Fig. C).
When using TYPE IV (Metal) or TYPE II (High/CrO_2) tapes, be careful not to block the sensor holes with the tape (Fig. D, Fig. E). If the holes are blocked, the automatic tape selector mechanism will not operate correctly.

NOTES:

- *The accidental erasure prevention tab for each side is the one located on the top left when the side that you want to protect is facing you.*
- *When breaking off the tab, do not use a magnetized screwdriver.*

AUTOMATIC TAPE SELECTOR FUNCTION

This cassette deck is equipped with an automatic tape selector function which utilizes the sensor holes on the tape cassette to determine the type of tape being used. The deck is then set to match the tape recording bias and equalization.

NOTES:

- *When using TYPE IV (Metal) tapes, make sure that the tapes have sensor holes.*
- *Make sure that the sensor holes on the cassette are not blocked; otherwise the tape selector mechanism will not function properly.*
- *Do not use TYPE III (FeCr) tapes.*

MANIPULACIÓN DE LAS CINTAS DE CASETE

COMPRUEBE EL CASETE ANTES DE UTILIZARLO

Recuerde los puntos siguientes antes de cargar casetes en el aparato.

¿Está la cinta floja o sale fuera del casete?
Si la cinta sale del casete o si está floja, puede moverse sin pasar entre el eje de arrastre y el rodillo de presión, lo cual evitará que la cinta pueda desplazarse, motivo por el cual puede dañarse. En tales casos, tense la cinta insertando un lápiz a través del cubo del carrete y girándolo. (Fig. A).
Algunos casetes pueden tener un retenedor de plástico o de papel grueso para evitar que se afloje la cinta. Asegúrese de extraerlo antes de introducir dicho casete en la grabadora, y vuélvalo a colocar después de haber utilizado el casete.

¿Están intactas las lengüetas de protección contra el borrado?
Los casetes disponen de lengüetas de protección contra el borrado que impiden el borrado accidental de grabaciones importantes. Si rompe estas lengüetas (Fig. B), impedirá el borrado de programas incluso aunque ponga la grabadora en el modo de grabación presionando el botón de grabación por error.
Para volver a grabar un casete carente de lengüetas, cubra la abertura con una capa doble de cinta adhesiva (Fig. C).
Cuando utilice cintas del TIPO IV (metal) o del TIPO II (High/CrO_2), tenga cuidado de no bloquear los orificios sensores de la cinta (Fig. D, Fig. E). Si se bloquean los orificios, el mecanismo del selector automático de cintas no funcionará correctamente.

NOTAS:
- *Las lengüetas de protección contra el borrado están situadas en la parte superior izquierda de la cinta cuando se mira la parte a proteger.*
- *Cuando rompa la lengüeta de un casete, no emplee para ello un destornillador magnetizado.*

FUNCIÓN DEL SELECTOR AUTOMÁTICO DE CINTAS

Esta grabadora de casete está provista de una función de selección automática de cintas que emplea los orificios sensores del casete para determinar el tipo de la cinta insertada para que la grabadora pueda ajustarse a la ecualización y polarización propias de la cinta.

NOTAS:
- *En el caso de cintas del TIPO IV (metal), asegúrese de que tengan orificios sensores.*
- *Asegúrese de no bloquear los orificios de detección del tipo de cinta, porque cuando se bloquean estos orificios, el mecanismo del selector automático de cintas no funciona correctamente.*
- *No emplee cintas del TIPO III (FeCr).*

磁帶使用方法

使用前檢查磁帶

在裝入磁帶之前，請檢查下列各項內容：

磁帶是否鬆動或跑出磁帶盒?

如果磁帶鬆動或跑出磁帶盒，磁帶不能正確地進入主軸與夾輪之間的位置。這會妨礙磁帶正確地傳送，甚至有可能損毀磁帶。這時，可將一支鉛筆插入磁帶中心齒輪孔，將磁帶卷緊（圖A）。

有些磁帶盒帶有塑料或硬紙的止動罩，以防範磁帶鬆馳。裝入磁帶前，請取下止動罩，而用完磁帶後，請重新裝上。

防誤錄保險片是否完整?

防誤錄保險片能防範重要的錄音被不當心消去。

當磁帶盒上的保險片被除去時（圖B），即使按下錄音（●）鍵，錄音功能也不可能起作用，因此有價值的錄音就不可能因誤操作而消失。

欲在已除去防誤錄保險片的磁帶上重新錄音時，只要用雙層膠帶封住保險孔即可（圖C）。

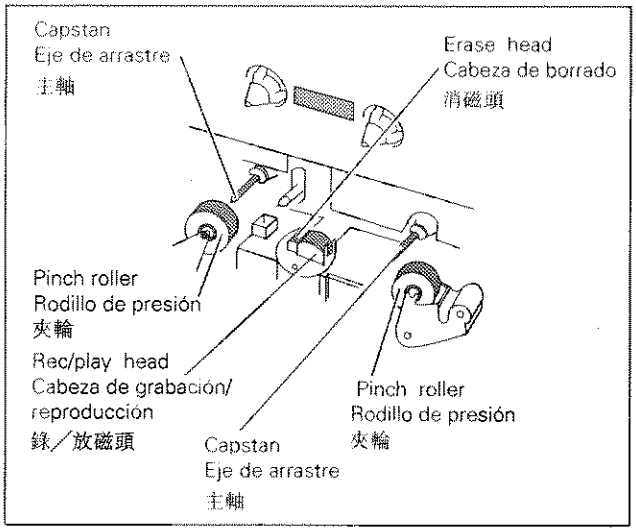
使用金屬（TYPEIV）或高質／二氧化鉻（TYPEII）磁帶時，當心不要用膠布遮住磁帶盒的傳感孔（圖D、圖E）。若傳感孔被遮住，則自動磁帶選擇器機構無法正確動作。

注意：
- *當您所要保護錄音內容的磁帶一側朝向您時，A面及B面的防誤錄保險片分別位於磁帶盒左側頂部。*
- *除去防誤錄保險片時，不得使用被磁化的螺絲刀。*

自動磁帶選擇器的功能

本機裝有自動磁帶選擇器功能，透過磁帶盒的傳感孔，會識別所用磁帶的種類，因此，會自動設定相應種類磁帶的錄音偏磁和均衡。

注意：
- *使用金屬（TYREIV）磁帶時，請確認磁帶盒備有傳感孔。*
- *確認磁帶盒的傳感孔沒有被遮住。否則，磁帶選擇器機構將無法正常動作。*
- *不要使用鐵鉻（TYPEIII）磁帶。*



MAINTENANCE

CLEANING THE HEADS, PINCH ROLLERS AND CAPSTANS

The heads, pinch rollers and capstans are likely to get dirty quite easily. If these parts, particularly the heads, get dirty, the high frequency components of a recording will not be reproduced and the stereo balance will be impaired, resulting in a deterioration of the playback sound. It is therefore recommended that the head section be cleaned regularly.

1. Set the POWER switch to STANDBY.
2. Press the eject button to open the cassette door.
3. Dip a cleaning swab in cleaning fluid and use it to wipe the heads, capstans and pinch rollers.

NOTE:

After cleaning the head section, do not load a tape until the cleaning fluid has dried completely (about two or three minutes).

DEMAGNETIZING THE HEADS

After using the cassette deck for a period of time, the heads will become magnetized. The same effect will occur if a magnetized screwdriver, magnet or other magnetized object is brought too close to the heads. When the heads become magnetized, high- frequency sounds will be lost during recording or playback, and interference noise may also occur. The heads should be regularly demagnetized with a head demagnetizer, which can be purchased at most audio stores.

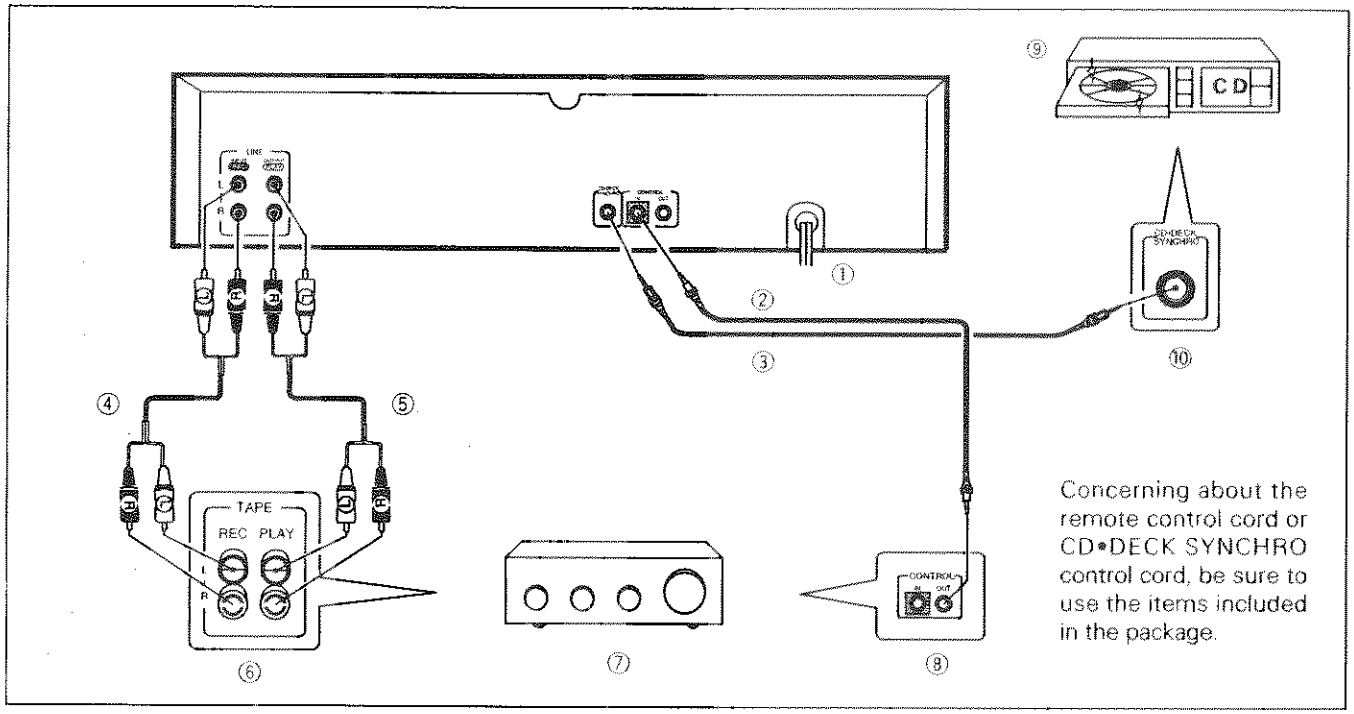
When demagnetizing the heads, make sure that the POWER switch of the cassette deck is set to ON, and turn down the sound volume on the amplifier or receiver to its lowest setting. Also be sure that no headphones are connected. For detailed instructions, refer to the operating instructions of the head demagnetizer.

CLEANING THE FRONT PANEL

Clean the deck regularly with a soft cloth. If the front panel becomes soiled, moisten a soft cloth with a weak solution of neutral detergent (diluted in five to six parts water), wring the cloth well, and wipe the panel clean. Never use volatile cleaners like thinners, benzine or alcohol because they will damage the panel finish.

CONNECTIONS

① Power cord
② Remote control cord
③ CD•EDECK SYNCHRO control cord
④ Recording connection cord
⑤ Playback connection cord
⑥ TAPE REC/PLAY jacks
⑦ Stereo Amplifier
⑧ CONTROL OUT jack
⑨ Compact Disc Player
⑩ CD•EDECK SYNCHRO jack

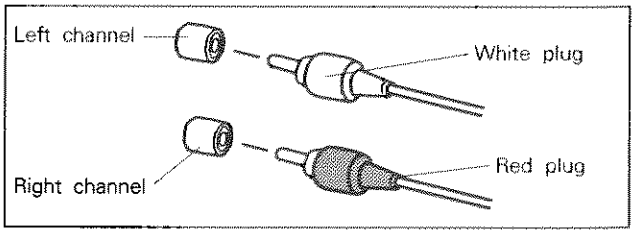


■ **Before making or changing the connections, switch off the power switch and disconnect the power cord from the AC outlet.**

■ Read through the operating instructions of the stereo components which you intend to connect to this unit.

■ Make sure that all of the connection plugs are inserted securely, as improper connections may generate noise.

CONNECTING THE RECORDING AND PLAYBACK CORDS (④, ⑤)



Connect the TAPE jacks of your amplifier to the LINE jacks of the cassette deck. Be sure to connect the REC (INPUT) jacks of the deck to the recording (output) jacks of the amplifier, and the PLAY (OUTPUT) jacks of the deck to the play (input) jacks of the amplifier.

- Connect the plugs properly:
  Left channel — White plug
  Right channel — Red plug

CONNECTIONS

CONNECTING THE POWER CORD (①)

Insert the power cord of the cassette deck into the accessory AC outlet of your amplifier, or into a normal household outlet.

POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause a fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

PIONEER SYSTEM REMOTE CONTROL (②)

CONTROL IN jack

Use the enclosed Remote Control Cord to connect this jack to the CONTROL OUT jack of another component which bears the mark (indicating that it is equipped with PIONEER System Remote Control). You will then be able to operate this unit using the Pioneer system remote control unit. If the remote control unit does not have separate buttons for deck I and deck II, or a selection button to choose deck I or deck II, the buttons will only operate deck II. To operate deck I with a remote control unit which was not designed for double deck cassette players, see page 18.

CONTROL OUT jack

Intermediary jack outputs signals from the CONTROL IN jack of this unit to the input jack of another unit. Connect this jack to the CONTROL IN jack of another component compatible with Pioneer System Remote Control.

NOTE:

Be sure to connect both of the control cord's plugs securely to the CONTROL IN and CONTROL OUT jacks. Do not connect only one end of the cable.

CD • DECK SYNCHRO RECORDING (③)

- CD • DECK SYNCHRO recording can be carried out when this unit is connected to a Pioneer CD player equipped with a CD • DECK SYNCHRO jack.

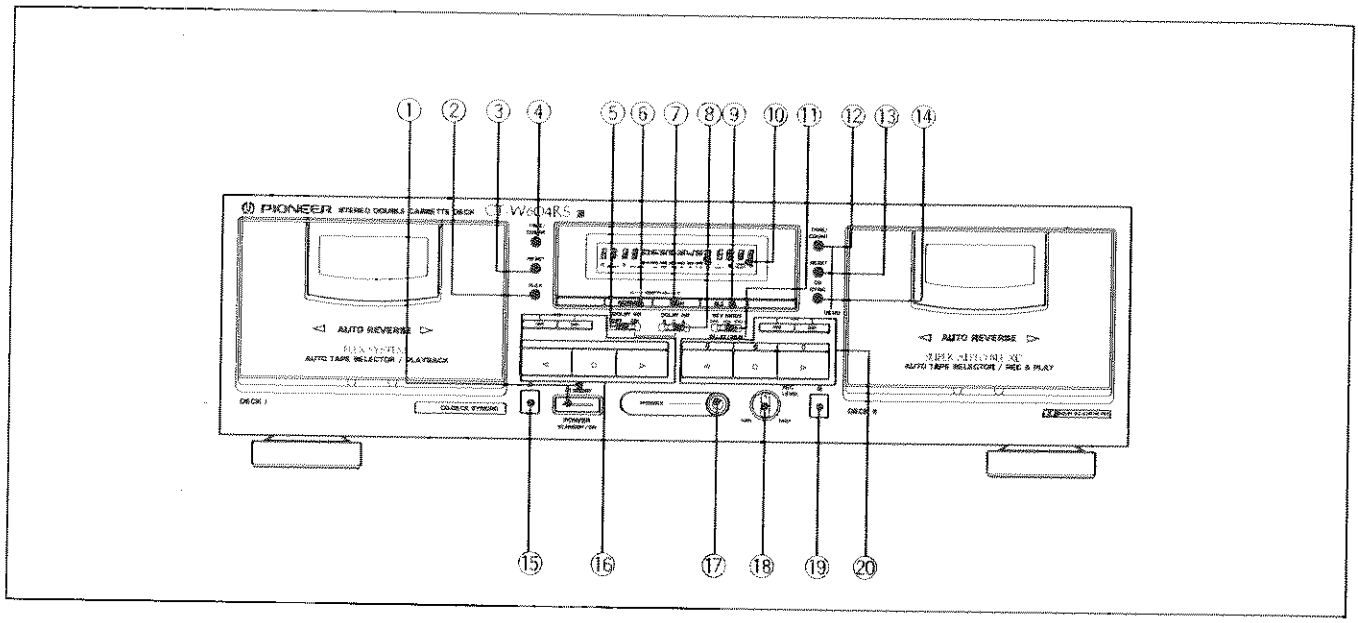
Connection

Connect the CD • DECK SYNCHRO jack of this unit to the CD • DECK SYNCHRO jack of the CD player using the supplied CD • DECK SYNCHRO control cord.

NOTES:

- *Keep the input and output jacks connected between the amplifier and this unit, otherwise, the CD • DECK SYNCHRO recording cannot be carried out.*
- *Even when the CD player is connected to the amplifier with an optical fiber cable, connect the CD player to the amplifier or this unit with the input and output cords that have pin plugs.*

FRONT PANEL FACILITIES



① **POWER STANDBY/ON switch/indicator**
The POWER switch activates the secondary transformer only. Even when the switch is in the STANDBY position, there will be a power flow to the deck's circuits as long as the power cord is connected to a power outlet. The indicator lights when the unit functions enter STANDBY, and it goes off when the power is turned on.

② **FLEX button**

③ **DECK I counter reset button (RESET)**

④ **DECK I counter mode button (TIME/COUNT)**

⑤ **DOLBY NR ON/OFF switch**

⑥ **Synchro copy button (COPY I ► II)**
Normal: Normal speed copy

⑦ **Synchro copy button (COPY I ►II)**
HIGH: Double speed copy

⑧ **DOLBY* NR switch (B/C/S)**
*
- *Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.*
- *"DOLBY", the double-D symbol and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.*

⑨ **DECK II BLE XD button**

⑩ **Function display**

⑪ **Reverse mode switch (REV MODE RELAY/SKIP)**

⑫ **DECK II counter mode button (TIME/COUNT)**

⑬ **DECK II counter reset button (RESET)**

⑭ **CD • DECK SYNCHRO recording button (CD SYNC)**

⑮ **DECK I eject button (⏏)**
- If the tape is moving (recording playback, tape winding, etc.), press the stop (■) button before pressing this button.

NOTE:
If the power is turned off while the tape is moving, the cassette door may remain locked. In this case, turn the power on before pressing the eject (⏏) button.

FRONT PANEL FACILITIES

⑯ **DECK I operation buttons**

◄	: Reverse playback
►	: Forward playback
◄◄/MS	: Fast reverse/music search
■	: Stop
►►/MS	: Fast forward/music searchrs

⑰ **Headphones jack (PHONES)**

⑱ **Recording level control (REC LEVEL)**

⑲ **DECK II eject button (⏏)**

- If the tape is moving (recording, playback, tape winding, etc.), press the stop (■) button before pressing this button.

⑳ **DECK II operation buttons**

◄	: Reverse playback
►	: Forward playback
◄◄ /MS	: Fast reverse/music search
■	: Stop
►►/MS	: Fast forward/music search
O	: Recording mute
II	: Pause
●	: Recording

NOTE:

If the power is turned off while the tape is moving, the cassette door may remain locked. In this case, turn the power on before pressing the eject (⏏) button.

REVERSE MODE SWITCH (REV MODE)

There are three settings:

One way mode ⇉ position

When the switch is set to this position, playback or recording is performed on one side of the tape only. When the tape reaches the end of the side, it stops automatically (auto stop function).

Two way mode ⇄ position

When the switch is set to this position, playback or recording can be performed on both sides of the tape. When the tape reaches the end of the first (forward) side, its direction is automatically reversed, and playback or recording continues on the other (reverse) side. When it reaches the end of the reverse side, the tape stops automatically (auto stop function). If playback or recording is started from the reverse side, the tape will stop when it reaches the end of that side.

Repeat mode ⇆ position (RELAY/SKIP)

When the switch is set to this position for playback, both sides of the tape are played back repeatedly until the stop (■) button is pressed, or until the tape has been repeated 15 times (32 sides playback). If Deck I and II are loaded with tapes, each tape will be repeated 15 times using relay playback and then both decks will stop automatically. If the pause button is pressed to pause the tape, and then playback is restarted, the repeat mode starts over from the beginning, and will play the tape 15 times (32 sides playback).

When the switch is set to this position for recording, both sides are recorded and then the tape stops, as described above for the two way mode.

If Deck I and II are loaded with tapes, relay recording is used when the recording starts with Deck I.

FRONT PANEL FACILITIES

OPERATION OF DECK I WITH A REMOTE CONTROL UNIT NOT DESIGNED FOR DOUBLE DECKS (system remote control)

Selecting DECK I

In order to operate DECK I with the remote control unit, adjust the unit as follows: With the power off, press and hold the stop (■) button of DECK I, and turn the power on. Continue to hold the stop (■) button for approximately five seconds. DECK I can now be operated using the remote control unit, but DECK II cannot.

Switching to DECK II

To restore remote control operation to DECK II, press the stop (■) button of DECK II while DECK II is in stop mode. DECK II can now be operated using the remote control unit. Remote control operation can be switched back and forth between decks by pressing the stop button of the desired DECK while it is in stop mode.

NOTE:

If a power failure or a sudden change in the power supply (caused by lightning, etc.) occurs, the unit is reset to its original state. Only DECK II can be operated by remote control. To restore operation to either deck, repeat the above procedure from the beginning.

SUPER AUTO BLE XD

- **SUPER AUTO BLE**

  With commercially available cassette tapes, sensitivity and frequency characteristics might differ slightly from one another, even though the same sound adjustment is set for them.
  To utilize tape characteristics to the maximum possible and realize an ideal recording which reproduces the source exactly, optimum recording level (sensitivity) and equalizer values must be set accordingly for each tape. In many conventional tape decks, standard values are fixed for standard tapes, thus nullifying the subtle differences between individual tapes. Perfect tuning by ear through use of fine adjustment controllers for bias and sensitivity is difficult and requires a lot of effort. It is especially difficult with a 2-head deck where the recording sound cannot be monitored. The AUTO BLE on this unit automatically adjusts bias, level and equalizer by using a microprocessor to set the optimum recording characteristics accordingly for each tape.

- **SUPER AUTO BLE XD (XD: eXtended Dynamic range)**

  This function enables recording with expanded dynamic range in the high range by combining our unique bias control technology with conventional AUTO BLE.
  After adjusting the above bias, level, and equalization (BLE), this system checks the tape's recording capability by using relatively high level high-range test signals. During recording, SUPER AUTO BLE XD controls the bias to maximize the tape's recording capability.
  This makes possible a more faithful recording of sources having a wide dynamic range in the high range.
  - You can switch between AUTO BLE and AUTO BLE XD. Refer to page 42, 44 for the switching procedure.
  - Since this system controls the quality of recording itself, the clarity of the sound will be maintained even when the tapes are played back on another cassette deck.

FRONT PANEL FACILITIES

FLEX SYSTEM

- FLEX System: Frequency Level Expander System
  This system automatically compensates high and low frequency level balance above 1 kHz according to the 1/f curve during playback.
  Generally, the envelope line of sound energy distribution of Hi-Fi sounds corresponds statistically with the 1/f curve.
  The 1/f curve indicates that if the frequency doubles, the level decreases by approx. half of the original frequency level.
- During playback, the FLEX system automatically compensates tapes with poor sound quality at high frequency levels of 1 kHz and over, based on the appropriate auditory characteristics.
  The FLEX system is designed to improve high frequency reproduction in the10 kHz range up to about 12 dB, particularly in tapes with poor sound clarity and sound presence at high frequency levels. If the playback tape sound matches the 1/f curve, the FLEX system defeats compensation adjustment automatically.
- When you press the FLEX button to turn the FLEX system on and start playback, the FLEX indicator flashes and compensation adjustment begins.
  Compensation adjustment takes approximately 3 seconds to complete. The indicator changes from a flashing to a steadily lit condition when the adjustment is completed.
- When the FLEX system is engaged, each music selection is automatically adjusted during playback. System operation status is indicated by the FLEX indicator (flashing or steadily lit).
  Even when the FLEX system is turned on, the FLEX indicator is nullified automatically during all recording functions including: AUTO BLE XD tuning, CD • DECK synchro recording, and tape copying.

NOTE:

- *When a tape has been recorded at a high frequency level above the compensation level, the FLEX system operation is automatically defeated during playback.*

DOLBY NR & DOLBY HX PRO

■ The B/C-type Dolby NR Systems

Dolby NR systems are designed to reduce the amount of tape hiss, mainly in the treble components. During recording, the high-pitched pianissimo sounds which are most characteristic of audible noise are boosted, and during playback, only these boosted sections are attenuated, so that tape sound is returned to normal. As a result, the noise is attenuated by an amount equal to the boosting in the treble range. The Dolby B-type NR system reduces noise in the treble range, cutting tape hiss and expanding the dynamic range. The Dolby C-type NR system is even more effective in reducing noise, as it reduces noise from the mid-range on.

■ Dolby S-type NR System

The Dolby S-type noise reduction system is effective at reducing noise not only in the treble and mid-range frequencies, but in the bass frequencies as well. In addition, maximum noise-reducing effect is demonstrated not only in non-recorded parts of the tape but in the recorded signal portions as well. The broad reduction of noise modulation (bridging noise), freedom from dynamic side-effects in the audible spectrum (signal modulation), and reduction of decoding errors results in vastly improved sound quality.

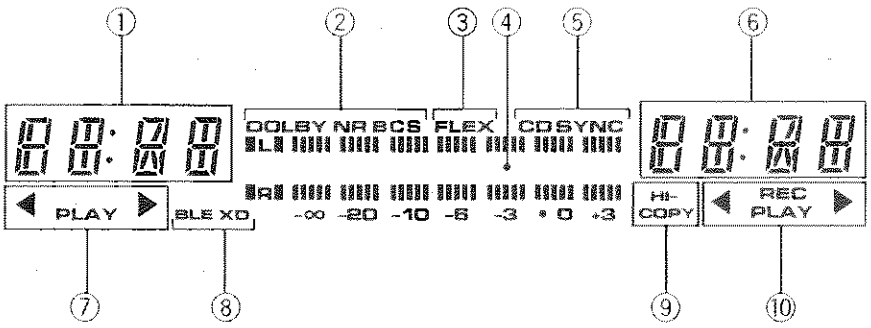
NOTE:

When a tape has been recorded using the Dolby B-type, C-type or S-type NR system, set the DOLBY NR ON/OFF switch to "ON" and then use the Dolby NR switch (B/C/S) to choose the system that was used during recording.

■ Dolby HX PRO Headroom Extension System

The DOLBY HX PRO system controls the bias current during recording and maintains it at the optimal level based on the amount of the high-frequency components in the music signal. It therefore provides excellent recording quality even when recording signals from digital sources, which contain a large amount of high-frequency components. To guarantee optimal results, the HX PRO system is activated automatically when recording begins. Since this system controls the quality of recording itself, the clarity of the sound will be maintained even when the tapes are played back on another cassette deck which does not contain the HX PRO Headroom Extension System.

FUNCTION DISPLAY



① **DECK I counter indicator**
Normally the tape counter or time counter is displayed (see page 28). It flashes for 4 seconds after the power cord is connected to the power supply.

② **DOLBY NR B/C/S indicator**

③ **FLEX indicator**
This indicator lights when the FLEX button is pressed.

④ **Level meter**
Holds peak for about 1.3 seconds.
The "•" mark beside the 0 dB mark indicates the Dolby NR system standard level.

⑤ **CD · DECK SYNCHRO indicator (CD SYNC)**
This indicator lights steadily when the CD SYNC button is pressed and the operation starts.

⑥ **DECK II counter indicator**
Normally the tape counter or time counter is displayed (see page 28). It flashes for 4 seconds after the power cord is connected to the power supply.

⑦ **DECK I tape transport mode indicators**
• See page 26.

⑧ **AUTO BLE XD indicator**
• See page 42, 44.

⑨ **Synchro copy indicator (COPY)**
Copy indicator lights: Copying at normal speed.
Hi-copy indicator lights: Copying at double speed.

⑩ **DECK II tape transport mode indicators**
• See page 26.

FRONT PANEL FACILITIES

TAPE TRANSPORTATION MODE INDICATORS

These indicators display the current tape transport mode. The chart below shows the meaning of each of these indicators.

For both DECK I and II

Flashing rapidly

	Forward mode	Reverse mode
Stop	▶	◀
Playback	PLAY ▶	◀ PLAY
Fast forward	▶	◀
Fast reverse	◀ ▶	◀ ▶
Forward music search	PLAY ▶	◀ PLAY
Reverse music search	◀ PLAY ▶	◀ PLAY ▶

For DECK II

Flashing slowly

	Forward mode	Reverse mode
Playback pause	PLAY ▶	◀ PLAY
Recording	REC ▶	◀ REC
Recording standby	REC ▶	◀ REC
Recording mute	REC ▶	◀ REC

FRONT PANEL FACILITIES

TWO MODES COUNTER

Counter Mode button (TIME/COUNT)

Press the button, and 2 modes change alternately.
Tape counter ⟷ Time counter

■ Tape counter

Different counters are provided for DECK I and II. The numbers on the counters increase/decrease as a tape runs. It is useful if you make a note of the location and length of a selection while recording or playing back. You can then easily locate a desired selection or where to resume recording.

■ Time counter

- This indicates the elapsed time for recording or playback. This automatically starts counting when recording or playback starts. During fast-forwarding/rewinding, the counter automatically switches to the tape counter.
- The time counter indicates only the time duration of recording or playback. When recording or playback is changed to fast-forwarding, rewinding, or music search, the counter switches from the time counter to the tape counter. When the operation returns to recording or playback, the counter switches to the time counter.
- Tape counter indication

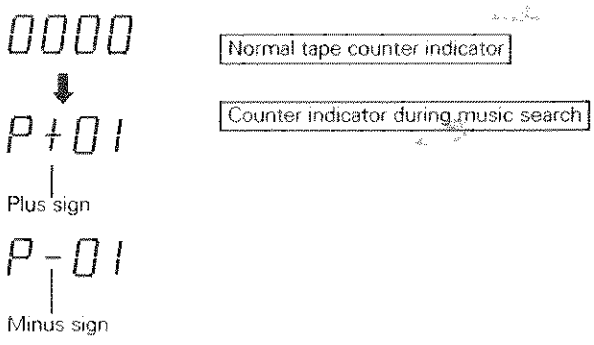
  0000
- Time counter indication

  00:00

Counter reset button (RESET)

Press this button to reset the tape counter to 0000, or to reset the time counter to 00:00.

Counter indicator during music search

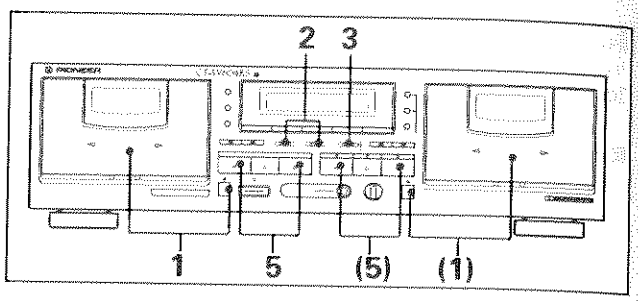


- A plus sign (+) appears during music search in the forward direction.
- A minus sign (–) appears during music search in the reverse direction.

The last two digits of the counter indicator show the number of selections to be skipped. If three selections are to be skipped, for example, it shows "P+03" initially. The number then decreases by 1 each time a selection is skipped ("P+02" → "P+01" etc.). When the deck resumes playback, the normal tape counter reappears.

PLAYBACK

SINGLE PLAYBACK (Either DECK I or DECK II)



1. **Load a prerecorded tape in Deck I or II.**
2. **Set the DOLBY NR ON/OFF and the DOLBY NR (B/C/S) switches.**
   - Set the DOLBY NR ON/OFF switch to ON first, then select B,C or S-type NR with the DOLBY NR switch.
   - Always set the switches to the same positions that were used for recording.
3. **Set the REV MODE switch to ⇄ or ⊃ (see page 16).**
4. **Set the stereo amplifier for tape playback.**
5. **Press the playback (▶ or ◀) button of either DECK I or II.**

To improve high frequency sound during playback in tapes with poor recordings

Press the FLEX button and play back the tape.

To stop playback temporarily (Except for DECK I)

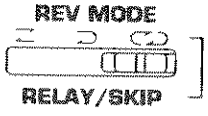
Press the pause (⏸) button.

- To resume playback, either press the pause (⏸) button again, or press the playback (▶ or ◀) button.

To stop playback

Press the stop (■) button.

BLANK SKIP



This function allows you to skip unrecorded portions of the tape during playback.

Set the REV MODE switch to ⊃

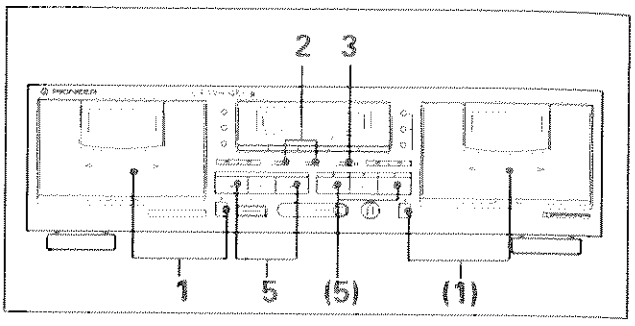
- When this mode is selected, if the tape deck encounters an unrecorded portion of tape more than 15 seconds in length, it will fast forward the tape until it encounters another recorded portion, and resume playback from that point.

NOTE:

- *When the REV MODE switch is set to the ⊃ position, the relay mode will be selected.*

PLAYBACK

RELAY PLAYBACK



When relay playback mode is selected, continuous playback can be performed. When the tape in the first deck reaches its end and stops, the other deck will automatically begin playback.

1. **Load prerecorded tapes in DECK I and DECK II.**
2. **Set the DOLBY NR ON/OFF and the DOLBY NR (B/C/S) switches.**
   - Set the DOLBY NR ON/OFF switch to ON first, then select B,C or S-type NR with the DOLBY NR switch.
   - Always set the switches to the same positions that were used for recording.
3. **Set the REV MODE switch to ⇨ (see page 34).**
4. **Set the stereo amplifier for tape playback.**
5. **Press the playback (▶ or ◀) button of the deck that will start to play first.**
   - When the tape in one deck ends, the other deck automatically begins playback.
   - To cancel relay playback, press the stop (■) button.

To improve high frequency sound during playback in tapes with poor recordings

Press the FLEX button and playback the tape.

NOTES:

- *Relay playback can begin from either DECK I or DECK II.*
- *The tape in the idle deck can be replaced during relay playback mode, allowing many tapes to be played back continuously. This is a convenient feature for parties, background music, etc.*
- *When this mode is selected, if the deck encounters an unrecorded portion of tape more than 15 seconds in length, it will fast forward the tape until it encounters another recorded portion, and resume playback from that point.*

To stop playback temporarily (Except for DECK I)

Press the pause (❚❚) button.

- To resume playback, either press the pause (❚❚) button again, or press the playback (▶ or ◀) button.

To stop playback

Press the stop (■) button of the operating deck.

PLAYBACK (RELAY PLAYBACK)

PLAYBACK SEQUENCE WITH REV MODE SWITCH SETTING

The playback sequence depends on the setting of the REV MODE switch and on which playback (▶ or ◀) button is pressed first. The playback sequence for each possible selection is shown below.

*2 In the repeat (↻) mode, relay playback always begins from the forward direction.

I ▷ : DECK I forward playback
I ◁ : DECK I reverse playback
II ▷ : DECK II forward playback
II ◁ : DECK II reverse playback
∞ : Auto-reverse function
→ : Relay

REV MODE switch	Starting playback button	Other deck mode	Playback sequence
↻	DECK I ▶	*2	I▷∞I◁→II▷∞II◁→I▷∞I◁ ... 15 times relay (32 sides playback)
↻	DECK I ◀	*2	I◁→II▷∞II◁→I▷∞I◁→II▷ ... 15 times relay (31 sides playback)
↻	DECK II ▶	*2	II▷∞II◁→I▷∞I◁→II▷∞II◁ ... 15 times relay (32 sides playback)
↻	DECK II ◀	*2	II◁→I▷∞I◁→II▷∞II◁→I▷ ... 15 times relay (31 sides playback)

PLAYBACK (RELAY PLAYBACK)

MUSIC SEARCH
(Skipping forward or backward to playback a desired selection)

The music search function detects blanks (longer than 4 seconds) between selections, advances the tape in the forward or reverse direction to find the beginning of the desired selection and automatically starts playback.
It can find a selection located up to 15 selections before or after the present position.

During forward playback
When you wish to locate a future song, press the ►► button as many times as the number of songs to be skipped. When you wish to listen to the song being currently played from the beginning, press the ◄◄ button once. To return to a previously played song, press the ◄◄ button as many times as the number of songs to be skipped, plus one.

During reverse playback
When you wish to locate a future song, press the ◄◄ button as many times as the number of songs to be skipped. When you wish to listen to the song being currently played from the beginning, press the ►► button once. To return to a previously played song, press the ►► button as many times as the number of songs to be skipped, plus one.

From the stop mode
Press the playback (► or ◄) button to set the playback mode, then press the ◄◄ or ►► button to perform music search as mentioned above.

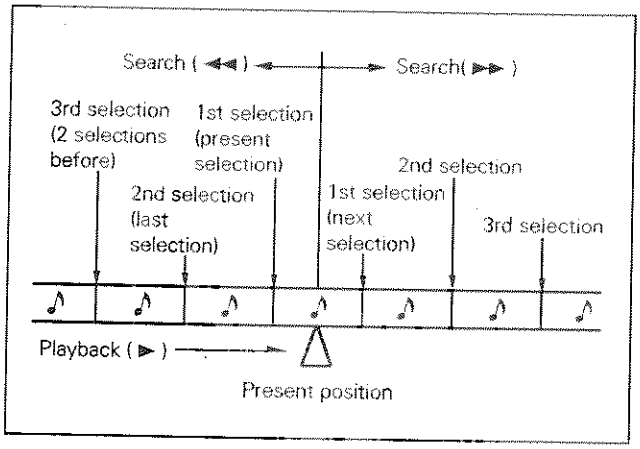
■ If the button is pressed more times than the number of selections recorded on the tape, forward search will continue on the opposite side, but reverse search will stop at the tape end.

NOTES:

In the following circumstances, the music search function may be unable to properly detect blanks between selections; this is not, however, a sign of a malfunction.

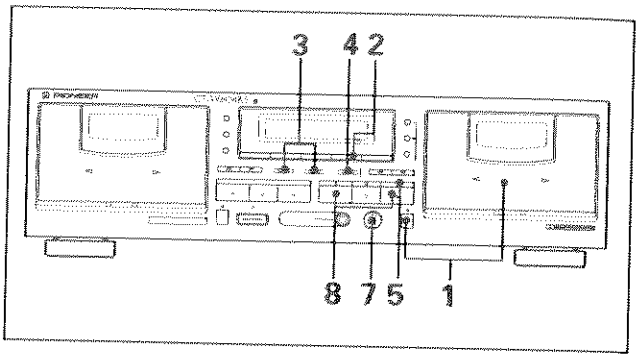
- *When using a tape with blanks between selections less than 4 seconds long.*
- *When listening to tapes with long low-level intervals,like classical music, or with sound breaks several seconds long within selections.*
- *When listening to recorded conferences or talk shows, where sound is intermittent.*
- *When using tapes with noise in the blanks between selections.*

How Selections are counted
When starting the music search operation from the middle of a selection and specifying "1st previous selection," playback will return to the beginning of the present selection. To return to selections further back, count one extra selection.



RECORDING

SINGLE RECORDING (Deck II only)



1. **Load a tape for recording in Deck II.**
2. **If you use AUTO BLE XD tuning, press the BLE XD button of DECK II.**
   The II indicator will flash in the AUTO BLE display for about 30 seconds, after which it will light steadily (see page 42).
3. **Set the DOLBY NR ON/OFF switch and the DOLBY NR (B/C/S) switches.**
4. **Set the REV MODE switch.**
   - To record on one side only, set the switch to the ⇒ position. To record on both sides, set the switch to the ⇔ position.
5. **Press the recording (●) button of DECK II.**
6. **Prepare the audio source from which you wish to record. Turn on the stereo amplifier and prepare it for playback of the desired audio source.**
7. **Adjust the recording level. For details, see "ADJUSTING THE RECORDING LEVEL" below.**
8. **Press the playback (► or ◄) button or the pause (II) button to begin recording.**
   - When recording on both sides, press the ► button. If the ◄ button is pressed, recording will stop after only one side is recorded.

To stop recording temporarily

Press the pause (II) button.

- To resume recording, either press the pause (II) button again, or press the playback (► or ◄) button.

To stop Recording

Press the stop (■) button.

Erasure prevention tabs

The recording (●) button does not work when the erasure prevention tabs of the loaded cassette tape have been broken off. (See page 6.) Do not press the recording (●) button with unreasonable force. When recording on both sides, make sure that both tabs are intact.

RECORDING

ADJUSTING THE RECORDING LEVEL

The adjustment of the recording level is the most important factor in achieving good recording results. A high level provides a good signal-to-noise ratio and dynamic range, but an excessively high level distorts the sound. If the level is set too low for fear of sound distortion, irritating tape hiss will mar the recording.

The characteristics of tapes differ depending on the manufacturer and the type of tape. Set the REC LEVEL control so that the level meter's "–3 dB" indicator lights steadily most of the time. No harm will be done if the "0 dB" indicator lights momentarily at peaks. When recording without Dolby NR, set the REC LEVEL control so that the "–3 dB" indicator lights, and the "0 dB" indicator lights occasionally at peaks.

NOTES:

- *The optimal recording level may differ somewhat depending on the audio source and type of tape used. In order to obtain the best possible results, set the recording level after actual testing. Listen to your recordings, and adjust the level as necessary.*
- *The level meter may react differently during recording and playback of the same tape. This is due to differences in tape sensitivity, and creates no problem.*
- *If Deck I and II are loaded with tapes, relay recording will be performed from both the forward and the reverse sides of the tape in Deck I, then both sides of the tape in Deck II. Be sure to check the position of the REV MODE switch before recording when you load tapes in both Decks I and II.*

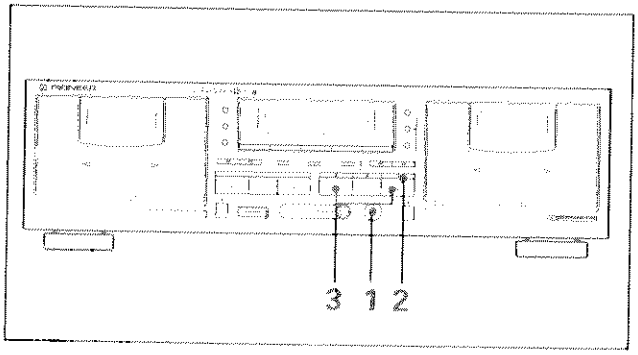
RECORDING MUTE

Use this function to create the 4.5-second blanks needed for proper operation of the music search function.

- Press the recording mute (O) button during recording and the deck will create a blank space by recording a section which contains no signal for approximately four seconds. The deck will then enter recording standby mode.
- To create a blank which is more than 4.5-seconds long, hold the button down for the desired length of time. When the button is released, the deck will enter recording standby mode.
- To resume recording, press the pause (II) button or the play back (► or ◄) button.

ERASING A TAPE

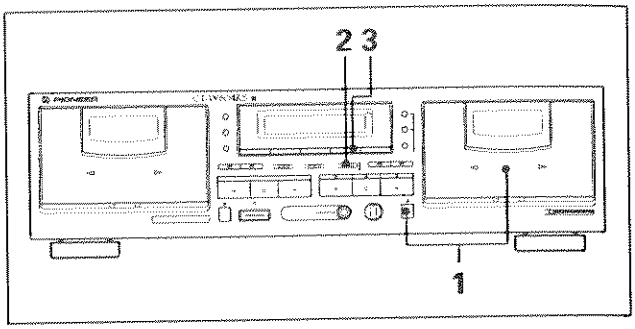
To erase the recorded contents of a tape, load the tape in DECK II and follow the procedure below.



1. **Set the REC LEVEL control to the MIN position.**
2. **Press the recording (●) button.**
3. **Press the playback (► or ◄) button or the pause (II) button.**

SUPER AUTO BLE XD TUNING (BLE XD)

When tuning DECK II.



1. **Load a tape in Deck II.**
   - The AUTO BLE XD does not work when the erasure prevention tabs of the loaded cassette tape have been broken off.
2. **Set the REV MODE switch to ⇄ or ⊃.**
3. **Press the BLE XD button of DECK II.**
   The II indicator will flash in the AUTO BLE XD display for about 30 seconds, after which it will light steadily. The tape will be forwarded for approximately one second after pressing the start button so that recording will start from the recordable portion of the tape. The operation is completed when the tape is rewound to its original position.

BLE XD operation	AUTO BLE XD indicator
DECK II tuning	② Lights → BLE → ① Flashes ④ Lights → BLE XD → ③ Flashes
DECK II tuned	Lights → BLE XD

To stop AUTO BLE XD tuning (BLE and XD)

To cancel AUTO BLE XD tuning (e.g. must record urgently), press the stop (■) button.

To reset a tuned condition

Press the BLE XD button again.

Error display

- If the old tape, the tape end or the leader (white portion) immediately prior to the tape end is reached during AUTO BLE XD operation, tuning becomes impossible. That means recording will stop immediately and the counter indicator will display the following (flashing) message: "Err".
  In this case, press the BLE XD button again to reset, and record without AUTO BLE XD tuning.

The following illustrates the operation:

(Operation completed within approximately 30 seconds)
Each operation is shown on the left and right channel level meters during AUTO BLE XD tuning.

	Display
	Counter indicator
START→FF(1sec)	BLE-0000 (Normal counter)
①, ⑤ • Recording or playing for adjusting recording bias	BIAS
②, ⑥ • Recording or playing for adjusting recording level	LEVL
③, ⑦ • Recording or playing for adjusting recording equalizer	EQ
④ • Fast reverse	BLE
⑧, ⑩ • Recording or playing for adjusting recording bias for high level signal (for XD)	BIAS
⑨ • Fast reverse	BLE
⑪ • Fast reverse (start point)	BLE
STOP END	0000 (Return to normal counter)

To switch only XD on and off:

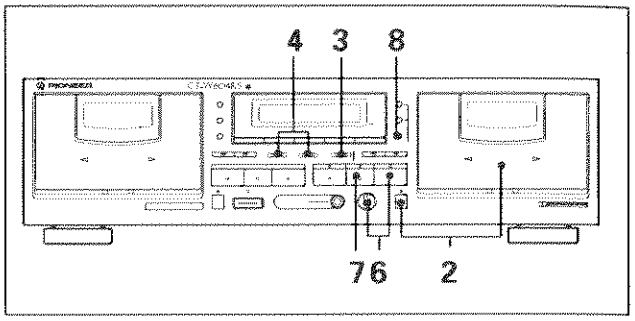
(How to switch between AUTO BLE & AUTO BLE XD)
The XD function can be switched on or off independently after AUTO BLE XD tuning.
Put the deck in REC/PAUSE mode and then press the BLE XD button to switch off XD. To switch XD on again, press the BLE XD button while in the REC / PAUSE mode.
(The XD mark on the indicator lights and goes out accordingly.)

NOTES:

- *During AUTO BLE tuning, signals are recorded on the tape, so be sure to wait until AUTO BLE tuning is completed before beginning to record.*
- *After AUTO BLE XD tuning, if you load a different type tape and begin recording, AUTO BLE XD will be cancelled. (The FL display will also go out.)*
- *HX PRO does not function when the XD is on.*

RECORDING

CD • DECK SYNCHRO RECORDING



If the CD player has a program function to determine the order of playback, program the CD player before beginning this operation.

1. **Load a compact disc in the CD player.**
2. **Load the cassette for recording.**
   - Rewind the tape to the desired starting position.
3. **Set the REV MODE switch.**
   - To record on one side only, set the switch to the ⇀ position. To record on both sides, set the switch to the ⇄ position.
4. **Set the DOLBY NR ON/OFF and the DOLBY NR (B/C/S) switch.**
5. **Press the play button of the CD player.**
6. **Adjust the recording level.**
   - See page 40.
7. **Press the stop (■) button of both the cassette deck and the CD player.**
   - Unless both this deck and the CD player are in stop mode, synchro recording cannot be performed.
8. **Press the CD SYNC button.**
   - The cassette deck begins recording, and the CD player begins playback.
   - Although recording begins when the CD SYNC button is pressed, the CD player does not start playback until the button is released. This function can be used to advance the tape past the leader section, or to create a blank section on the tape.

RECORDING

ABOUT RECORDING

You can use only DECK II for recording.

When the compact disc finishes playing:

The CD player enters stop mode and the cassette deck enters recording standby mode. Change the disc and press the play button of the CD player to resume recording. If the CD player does not resume play within one minute, the cassette deck enters stop mode.

When the CD player changes discs (twin-tray or multi-CD disc players):

The cassette deck enters recording standby mode, and resumes recording when the CD player begins playing the next disc. A four-second blank space is automatically created between tracks.

When the end of the tape is reached while the CD player is still playing:

The CD player returns to the beginning of the currently playing selection and then enters the pause mode. To resume recording, load another tape and check the tape running indicator to ensure that the tape is moving in the desired direction. If not, press the playback (▶ or ◀) button to change the tape direction, then immediately press the stop (■) button. The tape running indicator will change direction. Synchro recording can be resumed by pressing the CD SYNC button again. (The CD SYNC button should be pressed within 1 minute. If more than 1 minute elapses, the CD player will enter stop mode.)

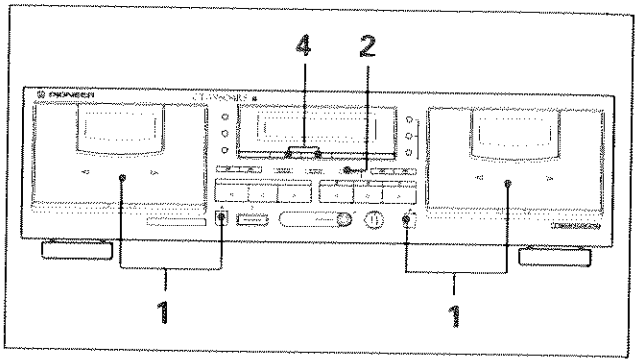
If the auto-reverse function operates while the CD is still playing:

The CD player returns to the beginning of the current selection and enters pause mode.
A ten-second blank space is automatically created on the reverse side, then the CD player resumes playback and the deck resumes recording.

NOTES:

- *The CD• DECK SYNCHRO function only works with PIONEER CD players equipped with the CD• DECK SYNCHRO function.*
- *Be sure to connect the deck and the CD player with the CD• DECK SYNCHRO control cord.*
- *Although recording begins when the CD SYNC button is pressed, the CD player does not start playback until the button is released. This function can be used to advance the tape past the leader section, or to create a blank section on the tape.*
- *Only PIONEER CD players equipped with a CD• DECK SYNCHRO jack can be used for CD• DECK SYNCHRO recording. Any type of CD player which meets these requirements, including twin-tray or multi-CD models, can be used.*

TAPE COPYING (from DECK I to DECK II)



- The tape copying function permits you to copy the contents of a tape from DECK I to DECK II.
- The SYNCHRO COPY button is used to select either normal speed copying, or high-speed copying (copying at twice the normal playback speed).

1. **Load a tape for playback into DECK I and a tape for recording into DECK II.**
2. **Set the REV MODE switch.**
3. **Set the tape transport direction.**
   - Tape copying is always performed in the direction indicated by the tape transport indicator (▷ or ◁). To change this direction, press the desired playback button (▶ or ◀), then immediately press the stop (■) button.
4. **Press the SYNCHRO COPY button to select either NORMAL or HIGH speed.**

   NORMAL : Tape copying at normal speed allows you to listen during playback (COPY indicator lights steadily).

   HIGH : Tape copying at double speed (Hi-COPY indicator lights steadily). Playback will still be audible.

To stop copying

Press the stop (■) button of either deck. Both decks will stop.

NOTES:

- ***The tape in DECK II will be copied in the same type of DOLBY NR (B/C/S) as DECK I's tape, regardless of its own setting. When listening to the copied tape, set the DOLBY NR (B/C/S) to the type used for recording.***
- *If a nearby television set is on while high-speed copying is being performed, a high-pitched interference sound may be heard on the tape. In this case, either use the normal speed copying function, or turn off the television.*
- *During high-speed copying, none of the operation buttons will function except for the stop (■) button.*
- *During normal speed copying, the recording mute (○) and pause (▮▮) buttons of deck II also function.*
- *Tape copying is cancelled when either of the two tapes reaches the end. Therefore it is advisable to use tapes of the same length.*
- *The sound quality of the copied tape will be somewhat less than the original. Therefore when making more than one copy, always record from the original tape (do not make a copy of a copy).*
- *The recording level adjustment is not necessary during tape copying.*
- *XD does not operate during double-speed copying. (The XD mark on the indicator goes out too.)*

TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used. If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Cause	Remedy
POWER		
Cannot turn power on.	• The power plug is disconnected. • The component (stereo amplifier, audio timer, etc.) to which the power cord is connected is off.	• Connect the power plug. • Turn the stereo amplifier or audio timer on.
CASSETTE DOOR		
The door does not open.	• The deck is not in stop mode (tape is moving). • Power was turned off with the tape moving.	• Press the stop (■) button. • Turn power on.
The door does not close.	• The cassette is not properly loaded.	• Reinsert the cassette.
PLAYBACK		
Immediately stops.	• The tape is completely wound. • The tape is slack.	• Play back in the opposite direction. • Rewind the tape. • Take up the slack (see page 6).
The level meter does not work.	• The tape is blank. • **The tape head is dirty.**	• Replace the blank tape with a recorded one. • **Clean the heads (see page 8).**
No sound.	• The amplifier input selector is not correctly set. • The amplifier volume level setting is too low. • Connection problems (wrong connection, cord removed, poor contact, broken wire.)	• Set the amplifier input selector correctly. • Turn the amplifier volume control up. • Connect securely (see page 10).
RECORDING		
The recording indicator does not light up.	• The cassette erasure prevention tabs are broken.	• Replace the cassette with one whose tabs are intact. • Cover the hole over the tab (see page 6).
The level meter does not work.	• REC LEVEL control is set too low. • The amplifier is not delivering a recording signal (from the tuner, CD player, etc.). • Wrong connection, connection cord removed, poor contact, broken wire.	• Turn REC LEVEL control up (see page 38, 40). • Set the amplifier recording output selector correctly. • Check connections (see page 10).
Immediately stops.	• The tape is completely wound. • The tape is slack.	• Record in the opposite direction. • Rewind the tape. • Take up the slack (see page 6).
Cannot record.	• **The head is dirty.**	• **Clean the head (see page 8).**

Symptom	Cause	Remedy
POOR SOUND QUALITY		
Unstable or interrupted sound.	• **The head, pinch rollers and capstans are dirty.** • The tape is not uniformly wound.	• **Clean (see page 8).** • Completely fast-forward or rewind the tape.
No high frequencies.	• A tape recorded without Dolby NR is being played back with the DOLBY NR switch in the B,C or S position. • **The head is dirty.**	• Set the DOLBY NR ON/OFF switch to OFF. • **Clean the head (see page 8).**
High frequencies are emphasized.	• A Dolby NR-encoded tape is being played back with the DOLBY NR ON/OFF switch in the OFF position.	• Set the DOLBY NR ON/OFF switch to ON first, then set the DOLBY NR (B/C/S) switch to the same position used for recording.
Sound from previous recordings remains when rerecording a tape.	• **The head is dirty.**	• **Clean the head (see page 8).**
The sound is distorted.	• Recording level is too high. • The recorded signal itself is distorted. • **The head is dirty.**	• Turn REC LEVEL control down when recording (see page 40). • Replace the cassette. • **Clean the head (see page 8).**
Too much noise.	• High noise tape is being used. • Incomplete insertion of a connection cord, poor contact. • Recording level is too low. • **The head is dirty.** • The head is magnetized.	• Replace the cassette. • Check connections (see page 10). • Turn REC LEVEL control up when recording (see page 40). • **Clean the head (see page 8).** • Demagnetize with a head demagnetizer.
OTHERS		
The music search function does not work.	• Blanks between selections are less than 4 seconds long.	• Use a tape with blanks more than 4 seconds long.
Cannot use the remote control system.	• The control cord is not connected.	• Connect the control cord (see page 10).
CD · DECK SYNCHRO is disabled.	• The components are not connected properly. • The cassette erasure prevention tabs are broken.	• Connect them properly (see page 10). • Replace the cassette with one whose tabs are intact.
The CD SYNC indicator is off during CD · DECK SYNCHRO recording.	• The tape ran out during the CD · DECK SYNCHRO mode. • After the deck entered recording standby mode, more than 1 minute elapsed before the CD player resumed play.	• Replace the tape with a longer one. • Change the disc and press the CD SYNC button again.

Abnormal functioning of this unit may be caused by static electricity, or other external interference. To restore normal operation, turn the power off and then on again, or unplug the AC power cord and then plug it in again.

SPECIFICATIONS

System ..... 4-track, 2-channel stereo
Heads ..... "Hard Permalloy" recording/playback head X 1
"Hard Permalloy" playback head X 1
"Ferrite" erasing head X 1
Motor ..... DC servo motor X 2
Wow and Flutter ..... 0.09% (WRMS)
Fast Winding Time ..... Approximately 100 seconds (C–60 tape)

Frequency Response
–20 dB recording:
TYPE IV (Metal) tape ..... 20 to 20,000 Hz
TYPE II (High/CrO_2) tape ..... 20 to 19,000 Hz
TYPE I (Normal) tape ..... 20 to 18,000 Hz
Signal-to-Noise Ratio
Dolby NR OFF ..... More than 57 dB
Noise Reduction Effect
Dolby B-type NR ON ..... More than 10 dB (at 5 kHz)
Dolby C-type NR ON ..... More than 19 dB (at 5 kHz)
Dolby S-type NR ON ..... More than 22 dB (at 5 kHz)
Harmonic Distortion ..... No more than 0.8% (at –4 dB; 160 nwb/m)

Input (Sensitivity)
LINE (INPUT) ..... 100 mV (Input impedance 68 kΩ)
Output (Reference level)
LINE (OUTPUT) ..... 0.5 V (Output impedance 1.9 kΩ
Headphones ..... 1.33 mW (Load impedance 32 Ω)

Subfunctions

- Super AUTO BLE XD tuning system
- Automatic reverse
- DOLBY HX PRO recording function
- DOLBY B/C/S type NR
- Music search over ±15 selections
- Synchronized copy start
- High-speed and normal-speed copy (DECK I → DECK II)
- Relay playback/blank skip
- CD • DECK SYNCHRO recording capability
- Peak level meter with peak-hold function
- Automatic space recording mute
- Automatic tape selector
- System remote control available
- 2-mode electronic 4-digit twin tape counter
- Headphone jack
- FLEX system

Miscellaneous

Power Requirements ..... AC 110 V/120–127 V/220 V/230–240 V (switchable), 50/60 Hz

Power Consumption ..... 19 W

Dimensions ..... 420 (W) X 125 (H) X 250 (D) mm

Weight (without package) ..... 4.2 kg

Accessories

Operating instructions 1
Connection cord with pin plugs 2
Remote control cord 1
CD • DECK SYNCHRO control cord 1

NOTE:

Specifications and design subject to possible modifications without notice, due to improvements.

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